GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014

Subject code: 1720204   **Date: 20-06-2014**
Subject Name: Software Engineering Methodologies
Time: 10.30 am -01.00 pm   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	What is COTS? Discusses COTS integrated system in detail.	**07**
	(b)	Identify the equivalence class test case for input and output domain. Assume that input module accept date in dd-mm-yyyy format and display next date.	**07**
Q.2	**(a)**	Discuss the Booch methodology.	**07**
	(b)	Discuss Rational Objectory Methodology.	**07**
		OR	
	(b)	Discuss frequently asked questions about software with answers.	**07**
Q.3	**(a)**	Size of the project is 30,000 LOC. Calculate the effort, development time, and productivity of the project by assuming that project schedule is not tight and software developer team has average experience by using basic COCOMO model (a=3, b=1.12, c=2.5 and d=0.35).	**07**
	(b)	What are white box testing? List all white box testing technique and Explain any one white box testing technique with example.	**07**
		OR	
Q.3	**(a)**	What is the key issue in model checking? Justify that the model checking is computationally very expensive. Write the model checking process.	**07**
	(b)	Compare between formal and informal specification. Explain finite state machine with example.	**07**
Q.4	**(a)**	Draw and explain Petri-net for reader and writer problem with its limitations.	**07**
	(b)	What do you mean by architectural styles? Explain pipes and filters.	**07**
		OR	
Q.4	**(a)**	What is the web based software engineering? How it is differ from component based software engineering?	**07**
	(b)	Explain COCOMO with its types.	**07**
Q.5	**(a)**	What is the problem with software reengineering? What are the principal factors that affect the costs of system reengineering?	**07**
	(b)	Explain Component based software engineering in details.	**07**
		OR	
Q.5	**(a)**	Explain the basic elements of Architecture description languages.	**07**
	(b)	What is Earned Value Analysis? How it effects on project scheduling? Explain with example?	**07**

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